WHAT IS CLAIMED IS:

1. An ear sensor for providing one or more intensity signals representative of at least one physiological parameter of pulsing blood, the ear sensor comprising:

an emitter which emits light of at least first and second wavelengths;

a light-sensitive detector which provides intensity signals resulting from detection of the at least first and second wavelengths of the light after the light is attenuated by body tissue carrying pulsing blood;

a clip housing including one or more windows through which the light or the attenuated light will pass, wherein the clip housing also houses the emitter and the detector in movable proximity to one another; and

a plurality of tissue contacting surfaces configured to be positioned between the emitter and the tissue and between the detector and the tissue when the clip housing is applied to a measurement site, wherein the plurality of tissue contacting surfaces include pliable or adhesive material that provide increased support for removably retaining the tissue contacting surfaces proximate to the tissue.

2. The ear sensor according to Claim 1, wherein said tissue contacting surfaces comprise adhesive tabs.

3. The ear sensor according to Claim 2, wherein said adhesive tabs are removable.

4. The ear sensor according to Claim 1, wherein the tissue contacting surfaces comprise silicone lenses.

5. The ear sensor according to Claim 4, wherein said silicone lenses are pliable thereby increasing a surface area contacting the skin.

6. The ear sensor according to Claim 4, wherein said silicone lenses increase a coefficient of friction between the silicone lenses and a tissue site.

7. The ear sensor according to Claim 4, wherein at least one of said silicone lenses is sized to have a surface area greater than a surface area defined by at least one of the windows.

8. The ear sensor according to Claim 4, wherein optical properties of said silicone lenses are substantially similar to optical properties of glass.

9. The ear sensor according to Claim 4, wherein said silicone lenses are injection molded.

10. The ear sensor according to Claim 4, wherein said silicone lenses are one of partially hemispherical and convex in shape.

11. The ear sensor according to Claim 4, wherein said silicone lenses are disk shaped.

12. The ear sensor according to Claim 4, wherein said silicone lenses are rectangular.

13. The ear sensor according to Claim 1, wherein said clip housing comprises a disposable clip and said emitter and detector are removable from said disposable clip.

14. The ear sensor according to Claim 1, further comprising an attachment supplement.

15. The ear sensor according to Claim 14, wherein the attachment supplement comprises an ear hanger adapted to fit around an ear portion so as to support at least a portion of the ear sensor weight.

16. The ear sensor according to Claim 14, wherein the attachment supplement comprises an ear hanger comprising:

a formable stem having a first end and having a second end;

a generally semi-circular bend proximate said first end;

a generally right angle bend proximate said second end; and

a holder attached to second end and configured to accommodate said cable.

17. The ear sensor according to Claim 1, wherein, in a closed position, said clip housing exerts a force on said tissue in the range of about 90 g to about 140 g.

18. The ear sensor according to Claim 1, wherein, in a closed position, said clip housing exerts a force on said tissue site in the range of about 115 g to about 130 g.

19. An oximetry sensor comprising:

a plurality of opposing members each housing one of an emitter and a detector, and each including one or more windows covered by one or more silicone lenses so that the lenses will contact a tissue site when the oximetry sensor is applied to the tissue

site, wherein said plurality of opposing members are configured to removably position said silicone lenses against the suitable tissue site.

20. The oximetry sensor of Claim 20, wherein the plurality of opposing members removably position said silicone lenses against a patient's ear.

21. The oximetry sensor of Claim 20, wherein opposing members further comprise a plurality of extended ridges adapted to assist in releasing said plurality of opposing members from said tissue site.

22. A method of attaching a sensor to a measurement site to reduce pressure necrosis, the method comprising the steps of:

assembling a sensor with an attachment;

positioning said sensor against an ear tissue site with said attachment; and

supplementing said attachment so as to reduce pressure on said site.

23. The method according to Claim 23, wherein said assembling step comprises the substeps of:

sliding a first portion of said sensor into a clip; and

pressing a second portion of said sensor into said clip so as to complete removable installation of said sensor.

24. The method according to Claim 23, wherein said positioning step comprises the substeps of:

squeezing a finger grip portion of said sensor so as to open said attachment;

placing a contacting surface of said sensor proximate said tissue site; and

releasing said finger grip so as to close said attachment and press said pad portion against said tissue site.

25. The method according to Claim 23, further comprising the substeps of:

hanging a support around an ear portion; and

accommodating said sensor into said support so as to reduce the weight of said sensor and said clip supported by said site.

26. The method of assembling an oximetry sensor comprising the steps of:

assembling a clip housing an emitter and a detector;

forming one or more silicone lenses;

attaching said one or more silicone lenses to the clip;

positioning said one or more silicone lenses so that they have contact with the tissue site.

27. The method of claim 29 wherein the step of forming comprises injection molding.